



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/662,122

09/15/2003

Juha Sarmavuori

60279.00055

9082

32294 7590 02/23/2007
SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER

LU, JIA

ART UNIT

PAPER NUMBER

2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/662,122

Applicant(s)

SARMAVUORI, JUHA

Examiner

Jia Lu

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 12-15, 17-20, 23-27, 29-32, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 5, 10, 11, 16, 21, 22, 28, 33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4, 6-9, 12-15, 17-20, 24-27, 29-32, 36 are rejected under 35 U.S.C.

103(a) as being unpatentable over Ghuman et al in US patent 6,081,570, in view of Delfs et al in US application publication 2001/0019958 A1.

- a. Regarding claim 1, Ghuman shows a method for detecting octet (column 14, line 3) slip in a receiver, the method comprising: choosing a search direction (column 13, lines 20-25), searching a first error bit starting from a chosen end of a searching block (figure 20, element 436); counting a number of bit errors in a slipped block (figure 20, element 438); and detecting slip by analyzing the error bits (figure 20, elements 440, 442, 445 and figure 21A). While Ghuman does not show describe specifically using the method to detect octet slips *in pulse code modulation*, the occurrences of octet slips in pulse-code modulation streams are well known in the art, as discussed by Delfs (paragraph 0096). It would be obvious to one ordinarily skilled in the art to use Ghuman's method to

detect octet slips including those in pulse-code modulation streams in order to provide faster and more efficient frame synchronization and improve receiving performance.

- b. Claim 12 reads on the limitations of claim 1 above. Further, Ghuman discloses an in-path equipment (figure 1, element 14),
- c. Regarding claims 2, 3, 13, 14, Ghuman shows searching from a first bit to a last bit (column 14, line 61) and from last to first bit (figure 22, element 492), where searching block is an adjacent block (26) and slipped block is a signaling block (figure 2, element 30), or vice versa when the data is inverted.
- d. Regarding claims 4, 15, Ghuman shows verifying a correctness of the signaling block (figure 20, "yes") before searching (figure 20, "no").
- e. Regarding claims 6, 7, 17, 18, Ghuman shows detecting a slip if the number of error bits is zero, one, or greater than one (figures 20 and 21, where tolerance can be 0, 1, or greater than 1).
- f. Regarding claims 8, 9, 19, 20, Ghuman shows detecting error bits sequentially (column 14, lines 60-63) would inherently search a second error bit after a first error bit is found, and search for more errors starting from the second error bit.
- g. Regarding claim 23, Ghuman discloses a transmitter (figure 1, element 10), a receiver (element 34), and an in-path equipment (element 14), and a slip detector (figure 20). While Ghuman does not show describe

detecting octet slips *in pulse code modulation*, the occurrences of octet slips in pulse-code modulation streams are well known in the art, as discussed by Delfs (paragraph 0096). It would be obvious to one ordinarily skilled in the art to use Ghuman's method to detect octet slips including those in pulse-code modulation streams in order to provide faster and more efficient frame synchronization and improve receiving performance.

- h. Regarding claim 24, Ghuman shows a method for detecting octet (column 14, line 3) slip in a receiver, the method comprising: choosing a search direction (column 13, lines 20-25), searching a first error bit starting from a chosen end of a searching block (figure 20, element 436); counting a number of bit errors in a slipped block (figure 20, element 438); and detecting slip by analyzing the error bits (figure 20, elements 440, 442, 445 and figure 21A)..
- i. Regarding claims 25, 26, Ghuman shows searching from a first bit to a last bit (column 14, line 61) and from last to first bit (figure 22, element 492), where searching block is an adjacent block (26) and slipped block is a signaling block (figure 2, element 30), or vice versa when the data is inverted.
- j. Regarding claim 27, Ghuman shows verifying a correctness of the signaling block (figure 20, "yes") before searching (figure 20, "no").
- k. Regarding claim 29, Ghuman shows detecting a slip if the number of error bits is zero, one, or greater than one (figures 20 and 21, where tolerance

can be 0, 1, or greater than 1). Regarding claim 30, reads on the limitations of claim 7 above and claim 23 below.

l. Regarding claims 31 and 32, Ghuman shows detecting error bits sequentially (column 14, lines 60-63) would inherently search a second error bit after a first error bit is found, and search for more errors starting from the second error bit.

m. Regarding claim 36, Ghuman shows the slip detector to be arranged into the receiver terminal (figure 1, element 34)

2. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghuman et al in US patent 6,081,570, in view of Delfs et al in US application publication 2001/0019958 A1 and further in view of Pierson in US patent 6487198. While Ghuman does not disclose arranging the slip detector *in* an in-path equipment, because frame slips are common in in-path equipments (see Pierson column 17, lines 32-45), it would be obvious to one ordinarily skilled in the art to incorporate the slip detector of Ghuman into an in-path equipment in order to provide in-path synchronization and save receiver power.

Allowable Subject Matter

Art Unit: 2611

Claims 5, 10, 11, 16, 21, 22, 28, 33, 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jia Lu whose telephone number is 571-272-6042. The examiner can normally be reached on 8:30-4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DAVID C. PAYNE
PRIMARY PATENT EXAMINER

Jia Lu
Examiner
Art Unit 2611